

LEGISLATIVE COUNCIL BRIEF

Innovation and Technology Fund

INTRODUCTION

At the meeting of the Executive Council on 15 June 1999, the Council ADVISED and the Chief Executive ORDERED that, subject to the approval of the Legislative Council, the Innovation and Technology Fund (ITF) should be established along the lines set out in paragraphs 3 to 16 below.

BACKGROUND AND ARGUMENT

General Background

2. The First Report of the Commission on Innovation and Technology (CIT) recommends the establishment of an ITF to underline the Government's commitment to its policy and strategy for promoting innovation and technology, and to provide a secure source of funding for their implementation. The Commission recommends that the ITF should be used to finance ad-hoc projects that contribute to innovation and technology upgrading in both the manufacturing and service industries. Such projects may include, for example

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- (a) commercially relevant research and development activity;

- (b) human resource development activity;
- (c) activity to promote public awareness about innovation and technology;
- (d) activity to enhance the technological infrastructure;
- (e) activity to promote or facilitate university-industry collaboration or Hong Kong-Mainland collaboration;
- (f) activity to promote or facilitate technology diffusion, sourcing or acquisition; and
- (g) activity to promote technological entrepreneurship.

The Chief Executive in his 1998 Policy Address accepted the Commission's recommendations and pledged an injection of \$5 billion into the ITF.

The ITF : Proposed Framework

(a) *Mission and Broad Principles*

3. We propose to adopt the following mission statement for the ITF –

“As part of the Government's innovation and technology support programme, the ITF seeks to finance projects that contribute to innovation or technology upgrading in industry, as well as those essential to the upgrading and development of industry, to be undertaken by government or non-government entities.”

4. The broad principles that we propose to adopt in operating the ITF are as follows –

- (a) the projects to be supported should be relevant to the needs of the economy;
- (b) the ITF should not distinguish between manufacturing and service industries as the line between the two is increasingly difficult to draw in a modern globalised economy;
- (c) the projects to be supported should be focused in areas where Hong Kong can do well, so as to optimise the impact of public investments;
- (d) the administration of the ITF should be publicly accountable, and a credible mechanism for both project assessment and overall evaluation of its effectiveness should be put in place;
- (e) without compromising the principle of proper public accountability, the ITF should be administered efficiently without cumbersome procedures; and
- (f) the ITF should as far as possible seek to cultivate and foster technological entrepreneurship.

(b) *Relationship with Existing Funding Schemes*

5. At present, the Industry Department operates three funding schemes for supporting manufacturing and service sectors. They are the Industrial Support Fund (ISF), the Services Support Fund (SSF) and the Applied

Research Fund (ARF).¹ The ISF and, to a lesser extent, the SSF already finance some projects contributing to innovation and technology upgrading. The CIT has recommended that the ITF will replace the ISF and SSF as the funding source of these projects.

6. Some projects currently funded by the ISF and SSF may not be directly related to innovation and technology upgrading, but are nonetheless beneficial to upgrading and future development of our industries. We propose that the scope of the ITF be widened to cover these projects as well.

7. As regards the ARF, it has a distinct objective of encouraging technology ventures by providing equity capital to them, filling a gap in the private capital market which is rather averse to investing in technology businesses. The operational management of the ARF has been contracted out to three private sector venture capital firms. Given the different nature and modus operandi of the ARF, we consider that it should continue to have a separate identity for the time being. In future, however, the ITF may be a funding source for the ARF.

(c) *Ambit*

8. We propose that the ITF should fund the following four broad categories of activities.

(a) *Innovation and Technology Support Activities* : This category will

¹ The ISF was set up in 1994 to support projects that contribute to the industrial and technological development of Hong Kong. The SSF was set up in 1996 to support projects that contribute to the overall development and the competitiveness of Hong Kong's service sectors. The ARF was set up in 1993 as a venture capital fund to encourage private technology ventures.

cover midstream/downstream research and development projects undertaken by universities, industry support organizations, trade associations, private enterprises and the Applied Science and Technology Research Institute (ASTRI)².

(b) University-Industry Collaboration Activities : This category of projects aims to stimulate private sector interest in research and development through leveraging the knowledge and resources of universities. Following the recommendations of the CIT, initially we intend to introduce three schemes under this category :

- Teaching Company Scheme
- Matching Grant for Joint Research
- Industrial Research Chair Scheme

Annex A

Details of the above schemes are at Annex A. Projects under this category may be proprietary in nature. For this reason, funding for these projects will be provided on a matching basis.

(c) General Support Activities : This category will cater for projects that contribute to fostering an innovation and technology culture in Hong Kong, such as conferences, exhibitions, seminars, etc. This category will also include projects which are not directly related to innovation and technology upgrading, but will nonetheless be beneficial to the upgrading and future development of our manufacturing and service

² The establishment of the ASTRI is another recommendation made by the CIT. The ASTRI aims to support and stimulate mid-stream research and development in generic technologies that have the potential of ultimate commercialization by industries.

industries.

(d) *Technology Entrepreneurship Promotion Activities* : This category will cover projects that aim to encourage people with both technology know-how and business ideas to develop technology businesses. It will provide financial support for small technology-based enterprises to carry out pre-venture-capital stage R&D activities on a commercial basis. For companies that qualify and whose projects are assessed to have merits, funding of up to, say, \$2 million will be provided on a matching basis. The grant will be recouped gradually if the project is commercially successful.

(d) *Format and Management*

9. We propose to set up, by resolution, the ITF as a statutory fund under the Public Finance Ordinance. The resolution was issued to the Legislative Council on 14 June 1999.

10. We propose that the Director-General of Industry should be given the responsibility to control and administer the ITF, and will be accountable to the Legislative Council on expenditure from the ITF. We also propose to seek the Legislative Council Finance Committee's approval for individual projects costing more than \$15 million each.

(e) *Project Assessment, Monitoring and Evaluation*

11. We propose to put in place a suitable advisory structure to undertake project assessment and monitoring. This should comprise businessmen,

academics and Government officials to provide the necessary commercial, technical and policy input in the assessment and monitoring process. In developing the eventual advisory structure, we will take into account the CIT's current deliberations regarding institutional arrangements for our technological infrastructure. As they stand, these discussions point to the continued need for sector-specific committees to assess and monitor ITF projects.

12. We propose that the assessment criteria should have regard to a number of factors related to the potential contribution of the project to innovation and technology upgrading of the economy, commercialization potential, project team capability and the like. A list of the criteria is at Annex B Annex B.

13. To facilitate project assessment, applicants will be asked to set out, where possible, quantifiable objectives that the proposed project would likely achieve. This may include, for example, the number of firms that would likely adopt a certain technology; the expected number of participants at a funded event, etc. These objectives will also form the basis for the evaluation of the results of the projects. To ensure that project proposals are relevant to the needs of industry, we will require, where appropriate, private sector participation in the projects. To increase the possibility of the project results being adopted by private enterprises, the participating companies will need to contribute in cash or in kind to the project. Where appropriate, independent expert advice will be sought.

14. The following measures will be adopted to monitor the progress of the projects.

(a) Periodic reviews : Project teams will be required to submit progress report on a regular basis, say, half-yearly. Visits to and presentations by the project teams will be arranged where necessary.

(b) Disbursement of fund according to deliverables : To complement the monitoring efforts in (a) above, funds will be disbursed only if a project is able to meet the prescribed milestones of the projects.

(c) Mid-term evaluation : For projects that are related to technology development, particularly those that seek to develop technology in new areas, there should be a mid-term evaluation during which the likelihood of success and the latest global developments in the same area should be re-examined in detail.

(d) Retention money : For some projects, a sum of “retention money” of, say, 5% of the project costs would be held until all the milestones have been completed satisfactorily and all the requirements set down have been accomplished.

15. Projects will be evaluated against their original objectives and targets. Some of the yardsticks that will be considered for the purpose of post-completion evaluation are at Annex C. In addition, impact studies may be conducted for selected projects.

(f) Review

16. The ITF will be reviewed periodically, say, once every three years to ensure that it continues to meet its mission and operate effectively.

FINANCIAL AND STAFFING IMPLICATIONS

17. Subject to the approval of the Finance Committee of the Legislative Council, we will set up the ITF with an initial injection of \$5 billion. Investment income earned from the \$5 billion grant and all proceeds received from any disbursement from the Fund will be retained in the Fund's balance for meeting its future use. While existing staff responsible for administering the ISF and SSF will be redeployed to administer the ITF, an additional post of Trade Officer will be created by way of redeployment of existing resources to cope with the additional workload as a result of the establishment of the ITF.

ECONOMIC IMPLICATIONS

18. Projects financed by the ITF will help promote innovation and technology upgrading in our manufacturing and service industries. The Fund will also help promote a pro-innovation and technological improvement culture in Hong Kong. These efforts will contribute to increased productivity and enhanced competitiveness, and hence will be conducive to the long-term economic development of Hong Kong.

PUBLIC CONSULTATION

19. The CIT, the Industry and Technology Development Council and the Trade and Industry Panel of the Legislative Council have been consulted. The proposal has received their general support.

PUBLICITY

20. A Legislative Council brief and a press release will be issued on 17 June 1999. A spokesman will be available to answer media queries.

ENQUIRIES

21. Any enquiries on this brief should be directed to Mr Bobby CHENG, Principal Assistant Secretary for Trade and Industry at 2918 7460 or by facsimile at 2869 4420.

Trade and Industry Bureau

17 June 1999

Proposed Schemes under the Category of University-Industry Collaboration

Teaching Company Scheme

Under this scheme, companies will be encouraged to take on graduate research students for specific R&D projects with a finite duration. The university will provide teaching guidance for the students in handling the projects. The participating companies and the ITF will each bear half of the costs for hiring the students.

Matching Grant for Joint Research

2. As the name suggests, the aim of this scheme is to foster private enterprises to collaborate with universities in proprietary R&D projects. A company will be required to bear half of the costs of the project. The ownership of and access to the intellectual property rights of the project results will be agreed between the company and the university before the project commences.

Industrial Research Chair Scheme

3. The objective of this scheme is to assist universities and industry to develop research efforts in technology fields that are not yet developed in Hong Kong but for which there is good development potential in the longer term. The project should be in the natural science and engineering field. Funding will be provided on a matching basis and could cover the salary of the chairholder for a finite duration. This chairholder will mainly conduct research and will accept a light teaching load.

4. For these three schemes, we consider that competitive assessment might not be needed as the proposals would require the agreement of the university and the company involved. The university will need to play an active role in the selection of students and projects, and also the deployment of its teaching and research resources. At the same time, the participating company will also be involved in project formulation and monitoring, because of its substantial contribution and direct interest in the project. Moreover,

because of the proprietary issues involved, companies may not wish the details of their projects to be made known to other parties. We therefore consider that a funding ceiling can be set each year, and universities will submit collaboration proposals to the Director-General of Industry. The proposals will be entertained on a first-come-first-served basis, as long as they meet the objectives of the concerned scheme. Universities will be required to provide regular reports on the projects.

Factors to be Taken into Account in the Assessment Criteria of the ITF

1. the potential of the project to contribute to innovation and technology upgrading of the economy;
2. the potential of the project to broaden the scientific and technical knowledge base of the economy;
3. the potential of the project to facilitate general upgrading and future development of one or more sectors in industry;
4. for product/service development projects, the potential for commercialization and the likely pathways to the market;
5. the commitment of the company, whether as an applicant, private sector sponsor or partner, to follow through with future development of products, services and processes if the technical barriers can be overcome;
6. whether similar products, technologies or services are already available in the market;
7. the planning and organisational structure of the project, including the schedule of implementation, the milestones, etc.;
8. the technical and project management capability of the project team i.e. the applicant's experience, qualifications, track record, and the resources available for the project;
9. whether the proposed budget is reasonable and realistic;
10. whether the project should be funded by other sources, such as the Research Grants Council or the ARF;
11. whether the project is duplicating or likely to duplicate the work carried out by other institutions; and
12. whether there would be any recurrent cost implications.

Proposed Yardsticks for Post-completion Evaluation

- (a) *Innovation and technology support activities* : We would look at the number of companies that have adopted the technology / product / service / process, and where possible, the amount of investment spawned by the project. It must however be pointed out that the latter point may not be easy to establish because of the commercial sensitivity involved and the fact that investments may be made in tranches over a long period of time.
- (b) *University-industry collaboration activities* : We would look at the number of participating companies, the R&D expenditure induced from these companies on the project concerned, the involvement of faculty and students, as well as the level of technology upgrading on both parties through the project.
- (c) *General support activities* : We would look at, say, the number of participants at an event, the number of copies of a publication distributed to the industry and so on.
- (d) *Technology entrepreneurship promotion activities* : We would look at the percentage of beneficiary companies that could in due course obtain venture capital or other sources of investment, or could survive in the market after a period of time.

Taking all the above factors into account, each completed project would be given a rating, and companies / project teams with the lowest rating could be “blacklisted”.